

### **REMARKS**

The Official Action mailed May 6, 2010 has been carefully considered.

Claims 1-5 have been withdrawn. Claims 6, 7, and 12-14 remain pending.

Claims 13-14 have now been cancelled. Claim 6 has been amended. Accordingly, as of entry of this amendment, claims 6, 7 and 12 remain pending. Reconsideration and allowance of the subject application, as amended, are respectfully requested.

#### **Claim Amendments**

Claim 6 has been amended to recite the feature that the atomized iron based metallic coating is glass forming and that one forms a metallic coating containing a fraction of metallic glass. Support can be found at paragraph [0017] of the published application. No new matter has been entered.

Claim 6 has also been amended to recite that the alloy melt is applied in a manner where no primary precipitates are allowed to be formed in the melt from the deoxidizing elements. Support can be found at paragraph [0014] of the published application which recites that no primary precipitates form employing the deoxidizing elements and that coating is carried out such that they remain dissolved in the alloy melt and the alloy melt herein retains a high affinity for oxygen. No new matter has been entered.

Claim 6 has also been amended to recite that the coating herein is such that it provides the indicated properties without using bond coat. Support can be found throughout the specification, including for example paragraph [0009] which makes clear that the coatings are applied directly to a metal surface that are reactive with and remove surface oxidation of metal substrates to be coated. Support can also be found at paragraph [0015] which makes clear that the liquid melts herein are applied to a surface of a metal that is to be coated such that the surface is scrubbed clean of its native oxide layer. No new matter has been entered.

Claim 6 has also been amended to recite that the oxidized metal surface comprises a native oxide layer, which is disclosed at paragraph [0012]. This is reference to the feature that the surface is not pretreated to remove such *native* oxide layer, which becomes more relevant below when considering the outstanding art rejections. No new matter has been entered.

Finally, claim 6 has been amended to recite bond strengths above 12,000 psi. Support can be found at paragraph [0021] of the published application.

Claim 12 has been amended to clarify that the non-metal/metalloid further includes a non-metal/metalloid is selected from the group consisting of silicon, carbon, phosphorus, sulfur and combinations thereof. Support can be found at paragraph [0013] of the published application. No new matter has been entered.

Reconsideration and allowance of the subject application, as amended, are respectfully requested.

#### Claim Objections and Rejections

Claims 12-14 were objected to under 37 C.F.R. 1.75(c). As noted above, claim 12 has been amended and claims 13-14 have been cancelled. The objection under 37 C.F.R. 1.75(c) is therefore believed to have been overcome.

Claims 6-7 and 12-14 were rejected under 35 USC § 103(a) over Dorfman (U.S. 4,822,415) and further in view of Kim et al (U.S. 5,643,531).

Applicant appreciates the Office Action's analysis of Dorfman and Kim et al, and in particular, the response to Applicant's previous arguments and the reasons why the arguments were not considered persuasive. Applicant would therefore like to respond as follows.

Applicant begins with the notation at page 5 of the Office Action of May 6, 2010 where it was written that the primary reference of Dorfman did not teach that the thermal spraying therein is one that would involve high velocity oxy fuel spraying techniques.

Applicant agrees with the observation that Dorfman failed to teach or suggest that thermal spraying would involve high velocity oxy fuel spraying techniques. Applicant would next like to direct attention to **Table I** of the present application, where HVOF was in fact compared to a wire arc thermal spray approach. As can be seen, the wire arc thermal spray approach consistently provided bond strengths that were *less* than the claimed level of 12,000 psi. That being the case, it is respectfully submitted that with respect to Dorfman, who as noted, utilizes a thermal spraying technique, it is not the case that the bond strengths that are recited herein are necessarily present, which is the standard to conclude that the teachings of Dorfman inherently provide the presently claimed invention.

Applicant fully appreciates that the Office Action points to Kim for the proposition that Kim refers to the use of HVOF. Office Action at pages 5-6. However, Applicant would now like to point out that when considering Kim, and in particular, Example 1 at column 4, Kim teaches that the interior surface of the bushing that is presented, is one that is “pre-treated using sand blast” *before* the alloys of Kim are applied. This is respectfully submitted to be a teaching of surface preparation of the metal substrate to remove native oxide formation.

Accordingly, it is submitted that one following the teachings of the primary reference, as noted, would *not* be led to the use of HVOF nor is it believed reasonably to continue to advance the position that the claimed method remains as a process that is “substantially the same” as the cited art. Office Action at page 9. In addition, even if one should utilize the secondary reference of Kim et al, it has been identified that this would teach one skilled in the art to “pre-treat” and “sand-blast” the metal surface, as opposed to the amended claims herein which now recite that the subject alloys are applied by an HVOF process to a native oxide layer and the unexpected provision of an enhanced bond strength, supported by Table I of the published specification.

Having dealt with all the objections raised by the Examiner, it is respectfully submitted that the present application, as amended, and in view of the remarks herein, is now in condition for reconsideration and hopefully, allowance.

If the Examiner desires personal contact for further disposition of this case, the Examiner is invited to call the undersigned Attorney at 603.668.6560.

In the event there are any fees due, please charge them to our Deposit Account No. 50-2121.

Respectfully submitted,

Dated: November 8, 2010

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